

REMARKS

Applicant thanks the Examiner for a thorough examination of the present application, but respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow. At the time of the outstanding Office Action, claims 1-12 were pending. Of these claims, claim 1 has been canceled, claims 2, 3, and 5-12 have been amended, and claims 13-21 have been added. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier. Thus, claims 2-21 are now pending in this application.

I. Abstract

In the outstanding Office Action, the Abstract was objected to “because of undue length.” In response to this objection, Applicant has included herewith a revised Abstract in accordance with MPEP § 608.01(b). As such, Applicant respectfully requests withdrawal of the objection to the Abstract.

II. Specification

The Office Action suggests that the specification be amended in accordance with the recommendations provided in 37 CFR 1.77(b). However, Applicant has reviewed the specification and respectfully submits that the specification is in accordance with the application requirements set forth in the MPEP. As such, Applicant does not believe that any amendments are necessary.

III. Claim Objections

Claims 7-12 were objected to for being in improper multiple dependent format. As such, the Examiner indicated that “the claims have not been further treated on the merits.” In response, Applicant has amended each claim to remove any improper multiple dependent issues.

Accordingly, Applicant respectfully requests withdrawal of this objection, and for the claims to be examined on their respective merits.

Claim 12 was objected to failing to provide proper antecedent basis. In particular, the Examiner indicated that “page encryption” and “MAC” do not have proper antecedent basis. In response to this objection, Applicant has amended claim 12 to correct the antecedent issues. As such, Applicant respectfully requests withdrawal of this objection.

IV. 35 U.S.C. § 102(b)

Claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,985,921 to Schwartz (“Schwartz”). However, claim 1 has been canceled in the present amendment. As such, Applicant submits that this rejection is moot.

V. 35 U.S.C. § 103(a)

Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Schwartz in view of U.S. Patent No. 6,108,236 to Barnett (“Barnett”). Claims 2-5 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Schwartz in view of Takahira and further in view of U.S. Patent No. 5,754,565 to Mo et al. (“Mo”). Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Schwartz in view of Takahira in view Mo and further in view of U.S. Patent No. 5,897,662 to Corrigan et al. (“Corrigan”). Although Applicant does not necessarily agree with these rejections, in the interest of compact prosecution, Applicant has amended claim 3 to be independent form. In addition, Applicant has added new claims 13-21 to further protect aspects of the present application.

Independent claim 3, as amended, recites:

A smartcard comprising:

a substrate having a smartcard chip thereon; and

a secondary memory device on said substrate and
operatively connected to the smartcard chip,

wherein said secondary memory device is capable
of storing a plurality of pages of data, each having associated with
it a unique sequence number, the sequence number being stored
separately from the data page so that when the page is to be read,
the sequence number retrieved with the page can be compared with
the stored sequence number to authenticate the page.

Independent claim 13 is similar to independent claim 3, but additionally includes features similar to those previously presented in claim 7. Independent claim 20 is similar to independent claim 3, but additionally includes features similar to those previously presented in claim 8. Applicant respectfully submits that none of the cited references, whether considered alone or in combination, teaches or suggests the features recited in independent claims 3, 13, and 20 as amended.

In the outstanding Office Action, the Examiner asserted that Schwartz in view of Takahira and further in view of Mo discloses all of the the features previously presented in claims 1 and 3. Applicant respectfully disagrees. In particular, Applicant submits that none of the cited references disclose a “secondary memory device ... configured to store a plurality of pages of data, each having associated with it a *unique* sequence number, the sequence number being stored separately from the data page so that when the page is to be read, the sequence number retrieved with the page can be compared with the stored sequence number to authenticate the page,” as currently recited in claims 3, 13, and 20. (Emphasis added). Although the Examiner correctly recognized that Schwartz does not disclose this feature, the Examiner asserted that Takahira and Mo cure this deficiency. Applicant disagrees.

Takahira discloses a memory on a device which is divided into two different sections. (*See, e.g.*, Figure 1). As stated by the Examiner, one section contains “directory and ECC information and the other contain[s] the related data.” (*See*, page 6 of Office Action; emphasis added). At column 5, lines 37-41, Takahira discusses the creation of the EEC data and it is clear

from the description that that the ECC data is derived from the data in the application blocks. In contrast, the sequence number described in the present application are unique randomly generated numbers (changed on each update of the page). As a unique random number, the sequence number is not derived in any way from the content of the data pages with which they are associated. This is not, of course, true of the ECC codes of Takahira. As described in the passage cited by the Examiner, the ECC codes are derived from the data in the application blocks. Accordingly, the ECC codes of Takahira cannot properly read on the unique sequence numbers recited in the claim 3, 13, and 20.

To further the above point, Applicant notes that use of the unique sequence numbers in the present application makes it more difficult to attack the card by supplying a page with previous, outdated or overwritten contents including the previous ECC information. In such an attack, the sequence number in the out-of-date version of the page supplied by an attacker will not agree with the stored sequence number. Each sequence number thus serves to identify the page and version number of the data page stored on the card and, thus, of the current data page. As unique random numbers, the sequence numbers are not derived in any way from the content of the data pages with which they are associated. This is not true of the error checking codes in Takahira which are, as described in the passage identified by the Examiner, derived from the application blocks themselves. Thus, the ECC codes of Takahira cannot properly read on the claimed *unique* sequence number, recited in the claim 3, 13, and 20. Moreover, the ECC codes of Takahira certainly cannot read on the feature of claim 20 which states that “the sequence number for each page of data is a randomly generated value.”

With regard to the Examiner’s reliance on Mo, Applicant respectfully submits that Mo cannot cure the deficiencies associated with Schwartz and Takahira, since Mo suffers from similar deficiencies. At the portion of text cited by the Examiner, Mo states:

One way to correct for potential errors involves appending error correction code (ECC) bits at the end of each data segment. Before data is actually written to a disk, the disk drive calculates a unique

ECC for each of the data segments. The data along with its unique set of ECC bits are written to the disk. Subsequently, when the data is later read back from the disk, the corresponding ECC bits are also read back. The disk drive checks the retrieved data against its corresponding ECC to determine whether there were any errors in the retrieved data. If there are no errors, the disk drive continues with its normal mode of operations. (Col. 1, lines 35-45; emphasis added).

Accordingly, similar to Takahira, the Examiner has relied on ECC codes to correspond to the claimed unique sequence number. However, as discussed above, the unique sequence number of the present application is a unique randomly generated number that is entirely independent of the content of the pages of data with which they are associated with. In stark contrast, the ECC codes described in Mo are derived from the data blocks or segments they are associated with. Thus, the ECC codes of Mo cannot properly read on the randomly generated sequence numbers.

For at least the above reasons, Applicant respectfully submits that independent claims 3, 13, and 20 (and their respective dependent claims) are patentable over Schwartz, Takahira, and Mo. Applicant notes that various other references were cited in the Office Action; however these remaining cited references were directed to specific limitations recited in the remaining dependent claims of the present application. Since each of these dependent claims include at least one of the deficiencies discussed above with regard to the independent claims, and since none of these remaining cited references cure the deficiencies discussed above, Applicant submits that independent claims 3, 13, and 20 (and their respective dependent claims) are patentable over all of the references cited in the outstanding Office Action.

VI. Conclusion

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner

is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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